vCJD in humans (or animals), our evidence has to come from animal experiments. Waiting for human epidemiologic evidence would be a mistake.

Studies presented at scientific meetings and shortly to be published have shown that in hamsters and mice (species that have a rodent form of scrapie), the infective agent of scrapie is present in blood and can be transmitted from one animal to another within a single species (Dr. Robert Rohwer, Veterans Affairs Medical Center, Baltimore: personal communication, 1998). Also, as Giulivi notes, B cells have a receptor for normal prions — and presumably also for abnormal prions. Here is a possible biological mechanism that would allow prions attached to leukocytes to cross the blood–brain barrier.

So, can vCJD be transmitted through the blood supply? The jury is out, and the regulators and public health officials have a tough job. The point of my editorial was to underline the complexity of these decisions and to support the development of ethical guidelines for regulators. Understanding how these decisions are made and providing ethical support for the people making them is more important than a plethora of pronunciamentos.

I do not believe that my editorials will "set up a chain reaction among physicians, [causing them to] worry and arrive at the wrong conclusions." Our readers are a sceptical lot. Most would agree, I think, that there can be no conclusions in science. But there should be action, and physicians must always give advice to patients that is based on their knowledge of basic science and clinical medicine — not just epidemiology.

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References

1. Miettinen OS. Evidence in medicine: invited commentary. *CMAJ* 1998;158(2): 215-21.
2. Medawar PB. *Induction and intuition in scientific thought. Janeway lectures for 1968.* Philadelphia: American Philosophical Society; 1969. p. 1.
3. Cashman NR. A prion primer. *CMAJ* 1997;157(10):1381-5.
4. Ricketts MN. Is Creutzfeldt–Jakob disease transmitted in blood? Is the absence of evidence of risk evidence of the absence of risk? *CMAJ* 1997;157(10):1367-70.
5. Brown P. The risk of bovine spongiform encephalopathy ('mad cow disease') to human health. *JAMA* 1997;278:1008-11.
6. Cousens SN, Vynnycky E, Zeider M, Will RG, Smith PG. Predicting the CJD epidemic in humans. *Nature* 1997;385:197-8.

[Dr. Robert Rohwer comments, at the invitation of the editor-in-chief:]

Although I am unaware of any direct evidence that new variant CJD "can be spread through the blood supply," there is nevertheless increasing concern over our complete lack of knowledge on this point. It is now generally accepted among investigators in this field that the strain of transmissible spongiform encephalopathy (TSE) responsible for the bovine spongiform encephalopathy (BSE) epidemic in the UK and the strain causing vCJD are identical and distinct from all other TSE strains characterized to date. Moreover, several factors have aroused concern that vCJD may lie outside the spectrum of even our limited knowledge of classic CJD and scrapie: the apparent ease with which BSE is transmitted orally, the readiness with which it has jumped species barriers (first to cattle from whatever species it originated in and then to domestic and wild cats, antelopes and finally humans), its unique clinical and histopathological presentation in humans, and recent reports that the protease-resistant protein amyloid (PrP^{res}) is recoverable from the highly hematogenous tonsillar tissue of patients with vCJD but not those with classic CJD. Is the tonsillar PrP^{res} transported there from the blood stream? Is there some essential hematogenous involvement in the pathogenesis that facilitates oral transmission and results in significant blood titres? (It is noteworthy that

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cross-species inoculations of blood preparations from cattle affected with BSE to mice have not resulted in infections, but these tests have limited sensitivity.) Is this strain more virulent than classic CJD strains? These questions cannot be answered at present, and attempts to answer them are still mostly in the planning stages. However, if there is a risk to the blood supply from this agent, the problem will not be confined to the UK. The North American donor population undoubtedly includes many people who have travelled to or resided in the UK or Europe during the BSE epidemic.

It is imperative that we learn more about vCJD and the role of blood in its pathogenesis and transmission. Because of the low infectivity titres associated with blood, such studies will inevitably be burdened by long incubation times, incomplete transmission and a requirement for large numbers of animals to achieve statistical significance. Working at the limits of sensitivity demands the highest standards of animal husbandry. The unknown risks to humans and the established risks to cattle posed by this agent require expensive containment to ensure safety. A credible assessment of the risk to the blood supply from this disease will necessitate a substantial commitment of resources and several years of data collection once the resources are in place. The sooner we begin, the better.

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Jehovah's Witnesses and blood transfusions

It is well known that one tenet of the Jehovah's Witness faith is to refuse blood transfusions, even at risk of organ injury or death.[1] This stance has contributed significantly to the development of "bloodless" surgical techniques,[2,3] as well as to successful legal suits against clinicians who have given transfusions to Jehovah's Witness patients when the alternative would almost certainly have been death.[4]

I am writing to inform *CMAJ* readers of a movement among a group of people who identify themselves as Jehovah's Witnesses (some claim to be serving as Elders and Hospital Liaison Committee members in congregations and branch facilities throughout the world) and who aim to reform the Witness approach to blood transfusion. Leaders of this movement argue that a blood transfusion is actually a form of organ transplantation (generally allowed by the church). Information presented at the Web site of the Associated Jehovah's Witnesses for Reform on Blood (**www.visiworld.com/starter/newlight/index.htm**) includes discussions from biblical, historical and theological perspectives.

Clinicians caring for Jehovah's Witnesses who are severely anemic or awaiting surgery now have a new ethical issue to consider. In the interests of full and complete disclosure, should they inform their patients about this movement or should they remain silent to avoid any perception of "religious interference"?

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